

REMARKS

Section 112, first paragraph, rejection:

Claims 1-4, 6-9 and 11-14 stand finally rejected under 35 U.S.C. § 112, first paragraph. It is the examiner's position that the claims require no radial block copolymer, due to the recitation in the claims that the radial copolymer is present in amounts of less than 15 wt %.

Applicants disagree.

Claim 1 does not recite an adhesive comprising less than 15 wt % of a radial block copolymer component, up to about 20 wt % of a linear triblock, from about 30 to about 70 wt % of a tackifying resin, and from about 10 wt % to about 20 wt % of a plasticizer. Rather, the claimed adhesive, as recited, in one that must comprise a radial block copolymer, a linear triblock copolymer and a liquid plasticizer. The claim then sets limitations on the amounts of each, i.e., the radial copolymer is present, but is present in amounts of less than 15 wt %.

Withdrawal of the Section 112 rejection is requested.

Obviousness-type double patenting rejection:

The examiner maintains the obviousness-type double patent rejection of the claims over copending commonly assigned application Serial Nos. 10/779,420 and 10/ 779,505. The examiner urges that there is significant overlap in scope between the claims of the subject application and the claims of copending applications. Applicants disagree.

Applicants again submit that the claims of the subject application do not overlap the invention claimed in application Serial Nos. 10/779,420 and 10/ 779,505.

As noted above, the claims of the subject application are directed to adhesive formulations containing a radial block copolymer $(PS-PI)_nX$, the radial block copolymer is present in an amount of less than 15 wt %.

The claims of Serial No. 10/779,420 are directed to adhesive formulations containing a radial block copolymer $(PS-PI-PB)_nX$ in amounts of less than 15 wt %.

The claims of Serial No. 10/ 779,505 are directed to adhesive formulations containing a radial block copolymer $(PS-PI-PB)_nX$ in amounts of from 15 wt % to about 35 wt %.

Clearly the claims of the subject matter of the subject application are not obvious variations of the claims of the application Serial Nos. 10/779,420 and 10/ 779,505.

Withdrawal of the obviousness-type double patenting rejection is requested.

Section 103 rejection:

Claims 1- 4, 6-9, 11-14 and 16 and 6-16 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Komatsuzaki et al. (U.S. 6,534,593) or Vaughan et al. (U.S. 6,531,544) or Kueppers (U.S. 5,939,483) or Asahara et al. (U.S. 5,532,319). The examiner urges that each of the applied prior art patents shows and suggest each of the claimed ingredients and their use in combination in the claimed amounts.

Applicants disagree.

Komatsuzaki:

Komatsuzaki discloses block copolymer compositions used as a pressure sensitive ingredient in pressure sensitive adhesives. As described in col. 3, lines 39-43, the styrene content is in the range of 5 to 24% by weight, more preferably 10-18 % by weight, and more preferable 11 to 14 % by weight. As described in the paragraph bridging cols. 3 and 4, see, in particular, col. 4, lines 3-5, unduly high levels of styrene will result in loss of tack. From the information set forth in col. 11, lines 7-11, it can be seen that the percent of SIS used in the formulation of Komatsuzaki is from 16.7 to 90.9 %. The pressure sensitive hot melt adhesive of Komatsuzaki is used for the production of various pressure sensitive adhesive tapes, labels, deducting rollers and the like.

The adhesive claimed by applicants does not require pressure sensitive properties. Applicants claimed adhesive comprises a $(PS-PI)_nX$ radial block copolymer which is present in the adhesive in amounts of less than 15 wt %. The radial block copolymer required for use in the practice of applicants' invention has a styrene content of from 25 wt % to about 50 wt %. Such a high level of styrene will lead to a high modulus which is not useful in pressure sensitive adhesives. There is no disclosure or suggestion in the Komatsuzaki patent that would motivate the skilled artisan modify the formulation Komatsuzaki for use in the manufacture of disposable absorbent articles, let alone disposable elastic articles, which require high creep resistance. The pressure sensitive adhesives of Komatsuzaki would not be useful as an elastic attachment adhesive in non woven applications.

In response to applicants' arguments, the examiner refers to col. 3, lines 36+, of Komatsuzaki as disclosing "no particular limitation is placed on the proportion of the poly(aromatic vinyl) block." While the examiner argues that given the flexible language, there is overlap, this disclosure noted by the examiner relates to the amount of A¹ in the diblock polymer component (a). Komatsuzaki discloses that there is no particular limitation

is placed on the proportion of the poly(aromatic vinyl) block A¹ in the diblock polymer since its portion is determined to satisfy the criteria of having 5-24% by weight of poly(aromatic vinyl) block of components (a), (b) and (c). Komatsuzaki fails to disclose or suggest an adhesive suitable for elastic attachment that comprises a (PS-PI)_nX radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more.

Applicants submit that the claimed subject matter is not obvious over Komatsuzaki. Withdrawal is requested.

Vaughan:

Vaughan discloses hot melt adhesives that can be used in the manufacture of disposable absorbent articles and which is in contact with an oil-based skin care ingredient. I.e., the adhesive is used to bond substrates that contain or are coated with oil-based ingredients. The adhesives of Vaughan is described as containing 15 to 45 wt % of a block copolymer, 50 to 80 wt % of a tackifier and 0 to 10 wt % of a plasticizer. The block copolymer is preferably used in amounts greater than about 20 wt %, has a styrene content of less than 30 wt %, more preferably less than 20, even more preferably less than 15 wt % (col. 4, lines 8-10) and contains a diblock content of at least about 20 wt %, more preferably a least about 30 wt % (col. 2, line 22, and col. 4 lines13-16). The higher diblock percentage in the block copolymer is more preferable than the lower di-block, which is apposite of applicants' invention. Again, applicants claimed adhesive comprises a (PS-PI)_nX radial block copolymer which is present in the adhesive in amounts of less than 15 wt %. The radial block copolymer required for use in the practice of applicants' invention has a styrene content of from 25 wt % to about 50 wt %. Moreover, in contrast to applicants' invention, with requires at least 10 wt % or plasticizer, the adhesive of Vaughan contains no more than 10 wt %, and may be formulated without its use. Reference is made to Example 2, which lacks oil, and to Comparative example A, which contains 15 wt % oil and exhibits poor performance.

In response, the examiner argues that applicants "more than 10% plasticizer" and "less than 15 wt % radial block copolymer" overlaps Vaughan's "no more than 10% plasticizer" and "15-45 wt % block copolymer". Clearly no overlap exists. While the examiner notes that "second block copolymer" of Vaughan is cited as reading on applicants' claimed radial block copolymer, the second block copolymer of Vaughan is described as preferably being SBS radial block copolymer. Vaughn fails to disclose or suggest an adhesive suitable for

elastic attachment that comprises a $(PS-PI)_nX$ radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more.

Applicants submit that the claimed subject matter is not obvious over Vaughan. Withdrawal is requested.

Kueppers:

Kueppers describes an adhesive used in packaging applications. The viscosity of the Kueppers adhesive, typically less than about 1500 cps at about 150°C, would not be useful as an elastic attachment adhesive and would not render obvious the subject matter claimed by applicants. See Table 1 (col. 10) of Kueppers, in which the adhesive examples are reported to have viscosities ranging from 1100 to 1470 cPs and 150°C. In contrast, applicants' formulation set forth in Table 1 (page 13 of applicants' specification) shows a viscosity at 300°F (150°C).

In response the examiner urges that the composition ingredients and relative amounts are shown in Kueppers, and that it is well within the art to manipulate viscosity and to formulate within the scope of the claims. The examiner also notes there is no viscosity limitation claimed. While applicants acknowledge there is no viscosity limitation recited in the claims, the claims do recite that the adhesive be formulated so as to be suitable for use as an elastic attachment adhesive. The packaging adhesive of Kueppers would not be suitable for use as an elastic attachment adhesive. Kueppers fails to disclose or suggest an adhesive suitable for elastic attachment that comprises a $(PS-PI)_nX$ radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more.

The claimed invention is not obvious over Kueppers. Withdrawal of this rejection is requested.

Asahara:

Asahara discloses block copolymer compositions having specific combinations and types of block copolymers and pressure sensitive adhesive prepared using the block copolymer compositions of the invention as the base polymer component of the adhesive. The block copolymer compositions are formulated for pressure sensitive applications and comprise 20-90 wt % of a $(S-B-I)_nX$ and/or $(S-I-B)_nX$ block copolymer where n=2, 3 or 4 and from 80-10 of a SBI or SIB diblock. While Asahara discloses compositions that contain

(S-B-I)_n-X wherein x is 2-4, there is no exemplification, or even a general disclosure of the use of any polymer composition comprising (S-I)₃-X let alone in amounts of less than 15 wt %. There is no disclosure of the required use of a linear triblock in amounts of less than 20 wt % as disclosed and claimed by applicants. A polymer of the type disclosed for use in applicants claimed hot melt adhesive is not disclosed or suggested by Asahara.

The examiner's position that the S-I-B and S-B-I triblocks of Asahara overlap the claimed radial S-I block copolymer is without merit. It is unclear what the examiner means by "overlap", but as this term is conventionally used and understood, no overlap exist. Asahara fails to disclose or suggest an adhesive suitable for elastic attachment that comprises a (PS-PI)_nX radial block copolymer having a styrene content of 25-50 wt % in amounts of less than 15 wt % in combination with up to 20 wt % of a linear triblock, and a plasticizer in amounts of at least 10 wt % or more.

Applicants submit that the claimed subject matter is not obvious over Asahara. Withdrawal is requested.

Favorable action is solicited.

Respectfully submitted,

/Cynthia L. Foulke/

Cynthia L. Foulke
Reg. No. 32,364

Henkel of America, Inc.
10 Finderne Avenue
P. O. Box 6500
Bridgewater, New Jersey 08807-0500
Telephone No.: 908-685-7483

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